

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of		Examiner:
Drasler, et al.		Group Art Unit
Serial Number:		
Filed:		

Re: Intravascular Folded Tubular Endoprosthesis

December 26, 2001

**A Divisional of Ser. No. 09/299,512**

**Filed 04/26/99**

**Parent Application Examiner: Michael Thaler**

**Parent Application Group Art Unit 3731**

**PRELIMINARY AMENDMENT**

Honorable Commissioner  
U.S. Patent and Trademark Office  
Washington, D.C. 20231

Dear Sir:

This Preliminary Amendment is being filed as a part of a Divisional Patent Application to the above referenced Parent Application that has resulted in one issued patent, US Pat. No. 6,287,335 and has one other Divisional Application which is drawn to an attachment anchor species, Application No. 09/897,879 still pending and not to be abandoned. Please amend the enclosed Divisional Application drawn to a woven vascular tubular member as follows.

**IN THE SPECIFICATION**

Page 1, before line 1, add the following sentence: "This is a Divisional of application Ser. No. 09/299,512, filed 26 April 1999."

**IN THE CLAIMS**

Please cancel claims 1-34.

Please add claims 35-63.

**ADDED CLAIMS**

35. A composite structure for a vascular tubular member for repair of injury to a blood vessel within the body, said composite structure comprising;

A. flexible strands having axial componency interwoven with flexible strands having circumferential componency, said flexible strands providing for sealing at crossover points,

B. structural strands interwoven along with said flexible strands, said structural strands providing for functional characteristics for said vascular tubular member,

C. said structural and said flexible strands having substantially continuous contact with neighboring strands such that said composite structure will not significantly leak blood serum or blood cellular elements.

36. A composite structure for a vascular tubular member for repair of injury to a blood vessel within the body, said vascular tubular member being deliverable with a smaller diameter to the blood vessel and adapted to expand to a larger diameter, said composite structure comprising;

A. flexible strands and structural strands, said flexible strands having axial componency and being being interwoven with said flexible strands having

circumferential componency, said flexible strands providing for sealing at crossover points,

B. said structural strands being interwoven along with said flexible strands, said structural strands providing kink resistance and functional characteristics for said vascular tubular member,

C. said structural and said flexible strands aligned with generally continuous contact with a neighboring strand thereby having tight gaps between said strands that will not significantly leak blood serum or blood cellular elements.

37. The composite structure of claim 35 wherein said tubular member is deliverable with a smaller diameter to the blood vessel and adapted to expand to a larger diameter within the blood vessel.

38. The composite structure of claim 35 wherein said vascular tubular member is a bifurcated tubular member.

39. The composite structure of claim 35 wherein said flexible strands are multifilament strands.

40. The composite structure of claim 39 wherein said multifilament strands are formed from a polymeric material.

41. The composite structure of claim of claim 39 wherein said multifilament flexible strands are formed from a material taken from a group which includes polytetrafluoroethylene, polyester, silicone, carbon, polyurethane, and composite materials.

42. The composite structure of claim 39 wherein said multifilament strands are formed from expanded polytetrafluoroethylene.
43. The composite structure of claim 35 wherein said structural strands are monofilament strands.
44. The composite structure of claim 43 wherein said monofilament strands are formed from a metal.
45. The composite structure of claim 43 wherein said monofilament strands are formed from a material taken from a group which includes stainless steel, nitinol, titanium, tantalum, platinum, metal alloys, and metal composites.
46. The composite structure of claim 43 wherein said monofilament strands are formed from a material which is polymeric.
47. The composite structure of claim 43 wherein said monofilament strands are formed from a material taken from a group which includes polytetrafluoroethylene, carbon, polyester, polyurethane, and polymeric composite materials.
48. The composite structure of claim 35 wherein said structural strands are multifilament strands.
49. The composite structure of claim 48 wherein said multifilament strands are formed from strands taken from a group which includes metallic strands, polymeric strands, carbon strands, composite strands, a mixture of metallic and polymeric strands, and composite strands formed from a mixture of metallic and polymeric fibers.

50. The composite structure of claim 48 wherein said multifilament strands are polytetrafluoroethylene strands.

51. The composite structure of claim 50 wherein said polytetrafluoroethylene strands are formed from expanded polytetrafluoroethylene.

52. The composite structure of claim 35 wherein said flexible strands are monofilament strands.

53. The composite structure of claim 52 wherein said monofilament strands are formed of a material taken from a group which includes metals, metal alloys, polymers, composite materials, and carbon.

54. The composite structure of claim 52 wherein said monofilament strands are polytetrafluoroethylene strands.

55. The composite structure of claim 54 wherein said polytetrafluoroethylene strands are formed of expanded polytetrafluoroethylene.

56. The composite structure of claim of claim 35 comprising a woven structure having said structural strands extend in substantially a circumferential direction without substantial axial componency.

57. The composite structure of claim 56 further compising structural strands extending in substantially an axial direction.

58. The composite structure of claim 35 wherein said composite structure is a braided structure wherein said structural strands extend with both circumferential and axial componency.

59. The composite structure of claim 35 wherein said structural strands have at least circumferential componency to provide kink resistance.

60. The composite structure of claim 35 comprising structural strands having axial componency in at least a portion of the tubular member.

61. The composite structure of claim 60 wherein at least a fractional number of said structural strands having axial componency extend proximally beyond an inlet end of the vascular tubular member.

62. The composite structure of claim 61 wherein said structural strands extending proximally beyond an inlet end of said vascular tubular member are attached to an attachment means that is positioned at a distance away and proximal said inlet end, said vascular tubular member being attached to the blood vessel remote from said inlet end.

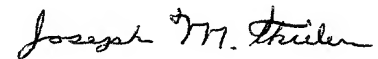
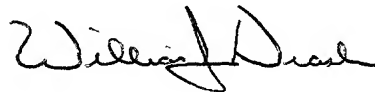
63. The method of forming a composite structure for a vascular tubular member wherein structural strands are integrally woven with flexible strands throughout said composite structure thereby distributing said structural strands generally throughout said composite structure thereby reducing focused stress between said flexible and structural strands.

REMARKS

This Preliminary Amendment is being submitted as a part of a Divisional Application to the Parent Application referenced above and which has resulted in one issued patent, US Pat. No. 6,287,335. An additional Divisional Application, 09/897,879 which is drawn to an attachment anchor species is still pending and is not to be abandoned.

The Applicants have provided claims in this Preliminary Amendment which are drawn to a woven vascular tubular member species as identified in an Office Action mailed 02/05/01 to the Parent Application referenced above. The Applicants appreciate consideration of the added claims and welcome input from the Examiner to put them in a condition for allowance.

Respectfully submitted,



William J. Drasler

Joseph M. Thielen

4100 Dynasty Drive

Minnetonka, MN. 55345

Telephone: (612) 935-2977

e-mail: WJD@MN.rr.com

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service using Express Mail Post Office on the date indicated here and addressed to: Box Patent Application, Commissioner of Patents and Trademarks, Washington, D.C. 20231, on 26 December, 2001.

Signature:  Date: 26 December 2001

William J. Drasler